

ESMERALDA COUNTY YUCCA MOUNTAIN IMPACT REPORT

The report in this appendix may contain references to potential mitigation or compensation related to the impacts that are identified. *It is the State of Nevada's firmly held position that no amount of mitigation or compensation will make Yucca Mountain or the related transportation of spent fuel and high-level radioactive waste acceptable to the State, and that Nevada is not seeking and will not negotiate for any type or amount of mitigation or compensation.* Any discussion of mitigation or compensation contained in individual AULG reports is extraneous to the purpose of the State Yucca Mountain Impact Report, which is intended solely to present a comprehensive portrayal of the range of impacts associated with the federal repository program.

The magnitude of impacts statewide and the nature of those impacts lead to but one conclusion: *The only way to protect Nevada – and the nation – from the massive, negative effects of this program is to abandon the Yucca Mountain project altogether, something Nevada contends should have occurred years ago.*

Part I.

Introduction

In the very near future, Yucca Mountain will be selected as the national repository for permanent disposal of high-level radioactive waste and spent nuclear fuel. Implementation of the repository program will require a massive long-term transportation campaign that will involve the conveyance of a minimum of 70,000 tons of highly toxic material across the United States on one or more routes through rural Nevada for a period of at least twenty-five years. It is very likely that Esmeralda County, particularly the town of Goldfield, will serve as a primary corridor for the transportation of most, if not all, of the high-level radioactive waste to Yucca Mountain. Impacts are far greater in rural Nevada than they are in other communities due to our location at the end of the transportation "funnel" where shipments are highly concentrated and resources for emergency response are limited. As a result, Esmeralda is potentially the most impacted county in the country (with the possible exception of Nye and Lincoln counties).

Selecting a route that crosses the Nellis Range Complex could easily mitigate these impacts. Esmeralda County prefers a route that crosses the Nellis Range complex. Objections by the Air Force to designate a route across the range complex could be easily mitigated through a carefully integrated planning effort. In the event that a route through the range (the Chalk Mountain route) is used, it is the opinion of Esmeralda County that there would be minimal impact to any county in Nevada, including Esmeralda, with the obvious exception of Lincoln County. It should be noted that over the years, Nevada Test Site workers who have lived in Lincoln County routinely used the route across the range to travel to and from work locations. This route would also benefit the Las Vegas Valley by serving as an alternative route for other forms of hazardous cargo that are routinely transported through the metropolitan area.

The Esmeralda County Board of Commissioners is responsible for protecting the health and general welfare of the county's residents. Esmeralda County is therefore vitally interested in the environmental, socioeconomic and public safety impacts arising from the construction and operation of the proposed repository and most importantly the transportation system. Most of these impacts can be alleviated if the Department of Energy begins working with the appropriate affected units now to develop a comprehensive transportation plan. In addition to naming the routes and modes, the plan must include mitigation measures to ensure public health and safety

for all corridor communities along the routes, with greatest emphasis on the unique and more significant needs of those communities located at the end of the transportation "funnel". The comprehensive plan must provide the information needed to allow Esmeralda County to mitigate environmental, public health and safety, and socioeconomic impacts.

Esmeralda County has developed this plan to ensure that it is fully prepared to protect the health and the safety of its residents, the environment and the local economy from the impacts of the Yucca Mountain repository and transportation campaign. Most areas of concern can be mitigated, but the County does not feel that attempting to identify each potential impact and address it individually is feasible or realistic. Many of the impacts are impossible to quantify because they would require subjective assumptions. The more sensible approach is that the Department immediately begins working with the appropriate group of affected units to negotiate a settlement that addresses both impacts and equity issues.

Esmeralda County and its Role as an Affected Unit of Local Government

Esmeralda County has been actively overseeing the site characterization of Yucca Mountain since 1988, but was only granted "affected" status by the US Department of Energy (DOE) in 1991 after a successful petition to the Ninth Circuit Court of Appeals.

The County formed a Citizens Advisory Council in 1991 to conduct oversight of the Yucca Mountain Project and to advise the County Board of Commissioners on policy matters relating to Yucca Mountain and transportation of radioactive material. In addition to contributing informed technical analysis of the Project to the Board and providing opportunities for public involvement, the Citizens Advisory Council has been a driving force in assessing Esmeralda County's emergency response capacity with regard to the County's role as a potential corridor for shipments to Yucca Mountain. The Council has also worked to determine what it would take to ensure safety should the County be impacted by a long-term transportation campaign.

Based on ten years of intense oversight of Yucca Mountain, the Council has come to three important conclusions, which will serve as the basis for this report:

1. Due to precedent set by the low-level waste transportation campaign and the political clout of Southern Nevada, all highway shipments of high-level waste will be routed through rural communities in Nevada, particularly through Esmeralda County.
2. The construction and operation of a repository at Yucca Mountain and transportation system will have potentially significant health-related, social, economic and financial impacts on the County and its residents.
3. These impacts, though mitigatable, are difficult and in some cases impossible to quantify particularly without the benefit of a comprehensive transportation plan from the Department of Energy. Even with the benefit of a transportation plan, many of the impacts, such as cultural cohesion impacts, simply cannot be quantified in any meaningful fashion.

It is Esmeralda County's hope that the Secretary incorporates an impact mitigation and equity compensation strategy into the Site Recommendation. This Strategy provides some insight into

the thinking of many reasonable Nevadans concerning the impacts of this program and their mitigation.

Part II.

Socioeconomic Impact Challenges

This section will address the social and economic impacts Esmeralda County may face when a repository is constructed at Yucca Mountain. The section includes a basic summary of the County's economy, a few general examples of potential economic and cultural impacts related to Yucca Mountain and recommendations from local residents as to how these impacts may be offset.

A Profile of Esmeralda County and its Economy

Geography

Esmeralda County is located in west central Nevada and is situated astride the diagonal portion of the Nevada-California line. The County encompasses nearly 3,570 square miles or 2,284,800 acres of land. It shares common borders with Mineral County on the northwest, Nye County on two sides to the northeast and east, and Mono and Inyo counties in neighboring California to the southwest.

Land Ownership

Of Esmeralda County's 2,284,800 acres of surface area, 98.79 percent, or 2,247,863 acres, is controlled and managed by the federal government.

Population

According to the Nevada State Demographer's June 2000 Report, Esmeralda County's total population is approximately 1,513 persons.

Population Centers

Goldfield is the Esmeralda County seat and the corridor community for highway transportation. An estimated 574 people, or 38% of the County's total population, live in the community. By way of US 95, Goldfield is located approximately 64 miles north of Beatty, 99 miles north of Amargosa Valley, and 124 miles north of Yucca Mountain. Also connected to Goldfield by US 95 are Las Vegas, 180 miles to the south and Reno, approximately 250 miles to the north. The other two main population centers in Esmeralda County are Silver Peak, approximately 26 miles west of Goldfield, and Dyer, approximately 100 miles west of Goldfield.

Economy

Despite the County's large physical area, the local economy is quite small and diversified. Esmeralda County's economic foundation consists of four facets; mining, agriculture, tourism/travel and government. In recent years, mining has generated at least 45% and as much as 73% of all wages and salaries earned within the County. Esmeralda County has suffered fluctuations in population, employment and taxable sales throughout its history. This can be attributed to the instability of mining in the County, as many mines have opened and closed over the years.

Tourism and recreation also play a key role in the local economy. Some of the tourist attractions in the area include historical mining sites and historical buildings and structures. Goldfield is a National Historical Site. Tours of the Goldfield Hotel are held throughout the year and attract almost 2,000 people annually. Goldfield also hosts the popular Millennium Land Rush, an event that brings approximately 1,000 tourists to the community each year.

Workforce and Unemployment

Esmeralda County's current workforce is comprised of 460 persons. Approximately 420 were employed during 2000. Unemployment in Esmeralda County this year ranged from 11 percent to 8 percent.

Esmeralda County's population, employment rate, and tax base have been steadily declining since the mid-1980's. The Department of Energy has given no indication that Yucca Mountain will have any effect on the economic direction of the County. According to the Draft Environmental Impact Statement (DEIS), virtually no jobs will be created or lost and the population and property values will take their due course, as if the Project never existed. Esmeralda County is not considered part of Yucca Mountain's socioeconomic region of influence (DOE, 1999).

For several reasons, this is not an accurate assessment. Perhaps the most important and ignored impacts to rural counties in Nevada are those having to do with cultural cohesion. While an assessment of the collective feeling of a community and the conflict costs created by the Yucca Mountain Project are virtually impossible to measure, the impacts should not be ignored.

Esmeralda County has already experienced significant impacts due to the extraordinarily controversial nature of the Yucca Mountain Project. The issue by its very nature pits neighbors against neighbors and leaders against leaders. The issue creates extreme political pressure on political leaders who attempt to take a reasoned and responsible approach to protecting public health, the environment and economy. The costs to the community due to highly emotional conflicts associated with the issue, the time invested by community leadership and the breakdown in community cohesion are very real, already present, and impossible to quantify. The failure of the DEIS to appreciate the significance of this issue to local governments such as Esmeralda County demonstrates considerable insensitivity. The fact that these impacts can't be quantified does not prevent them from being mitigated; rather it suggests that they must be addressed through a negotiated process.

It is important to note that people unfamiliar with rural Nevada often misunderstand the economy of rural Nevada, particularly Esmeralda County. The statement made by "outsiders" who visit the Yucca Mountain region, "How can this place possibly be hurt by Yucca Mountain? It's in the middle of nowhere." is often heard. There is a perception held by many "outsiders" (and apparently by the social scientists who work on the Yucca Mountain Project and who prepared the DEIS) that rural Nevada communities are virtually ghost towns that couldn't possibly be adversely impacted by a repository. This perception is unfounded and based almost exclusively on current and recent past (the last fifteen years) economic conditions in Esmeralda County. Rural Nevada has a long history of "boom-bust" cycles due to a heavy reliance on the mining industry. Esmeralda County is currently in the midst of a lengthy "bust". Just in the past several years, two major mining operations in the area have ceased operation. However, Esmeralda

County is endowed with a wide range of minerals, many of which are not at the present time economically feasible to exploit. It is not a question of "if" the mining industry will rebound; rather it is a question of "when" the industry will recover. While it may appear at the present time that there are no economic development activities that can be adversely impacted by the repository, the County and its citizens have a legitimate concern regarding possible impacts on future economic activity, including current restoration efforts on historic buildings, improvements to the infrastructure to build community capacity, and efforts to make mining in the County more economically feasible.

The fact that the Yucca Mountain transportation campaign is both unplanned and unprecedented makes an assessment even more problematic, especially for a potential corridor community like Goldfield. Routes have not been finalized, modes have not been evaluated, security issues have not been addressed, local response preparations have not been made, and DOE has not addressed a wide range of transportation planning and policy issues. The failure of DOE to do site specific transportation planning well in advance of the shipping campaign (the WIPP model) has already significantly harmed DOE's relations with rural Nevada. If a comprehensive transportation plan to address the many unresolved issues is not developed immediately, DOE will almost certainly face greater long-term distrust.

Without so much as a message from the DOE that the logistics of transportation through Esmeralda County are at least being carefully looked at, some local citizens may begin to actively protest the Project. If the polarization of local opinion were to escalate, the county will face constraints to day-to-day governmental decision making. County officials will be obligated to respond to the concerns of local citizens and spend scarce resources on mitigating public demonstrations. Negative perception of the Project may also change the outcome of local elections as candidates are forced to take strong positions on the nuclear waste issue.

Additionally, the lack of specialized transportation planning will have socioeconomic impacts. For example, if a traffic accident caused by a nuclear waste transporter results in one or more fatalities, there would be significant socioeconomic impacts. The following is a general summary of what the County can expect to face in the short-term and long-term after such an incident:

Impact Scenario from a Transportation Accident in Goldfield

1. The death of one or more local residents will immediately take the public perception dilemma previously addressed to an intensified level. Widespread negative reaction from the local or even national population is likely to occur. Both the Department and the County will be held accountable for the loss of life due to an incident that may have been prevented. A loss of life due to a radioactive material incident could also result in responders questioning their participation in volunteer emergency services.
2. A flood of media inquiries, many of which would be directed at the County's ability to handle hazardous materials emergencies and the Departments ability to transport waste, would quickly follow. Esmeralda County would soon find itself associated with a long-term public health risk stigma on a national level.
3. Goldfield would suffer an immediate decline in tourism. More than 2,500 tourists visit the community each year for special events alone, such as the Millennium Land Rush, the Memorial Day Parade, and the Halloween Haunting in the Goldfield Hotel. Tourism is therefore a very important Esmeralda County industry. Much of the tourism decline would come from the stigma, but it is also conceivable that the County may experience a "shutdown" for a period of time as federal and state officials conduct an investigation.
4. Because the community relies heavily on income from tourism, Goldfield may experience an exodus as those in the retail and service industries begin to look for jobs in other communities. The population decline would lead to property value reductions and declines in tax revenues.

To summarize, Esmeralda County is already in an economically vulnerable state and socioeconomic impacts to the County could be both significant and long-term. The lack of comprehensive transportation planning by DOE makes it extremely difficult for the County to define impacts. Many of the impacts by their very nature can't be quantified. It is strongly recommended that DOE:

1. Initiate a transportation planning process with extensive Esmeralda County participation; and
2. Begin negotiating an agreement to address impacts with Esmeralda County.

Part III.

Equity Compensation

Esmeralda County has been in a period of economic decline for a number of years. The County has a high indigent and senior population and a low per capita income. A large percentage of county resources are dedicated to assisted living and senior care programs. In addition to these economic limitations, Esmeralda faces the burden of serving as a corridor for a wide range and large quantity of hazardous waste shipments to and from the entire federal complex, including low-level radioactive waste. The County also hosts more than 2.2 million acres of publicly owned land, with little to no economic compensation.

For the most part, the residents of Esmeralda County would prefer not to take on the additional federally mandated burden of high-level waste being transported through their County. However, our residents are aware of the key role the County and Nevada may have to play in helping to resolve this important national environmental issue.

Esmeralda County proposes a dual pillar strategy for addressing the fundamental inequities associated with implementation of the Nuclear Waste Policy Act. The first pillar will require that DOE provide equity compensation to the State of Nevada and those counties affected by waste transportation. The equity payment could be used as each jurisdiction sees fit. The second pillar would involve structured programs set up and funded by the Department with specific economic development objectives.

The first pillar should be a payment to the State of Nevada and legitimately affected local communities. Again, it is impossible to apply a legitimate social science technique to quantify how large the equity payment should be. There is little established precedent for this type of payment other than the approach used for the Alaska oil pipeline. In order for Congress to agree to this type of payment, there would need to be a stipulation or mechanism to prevent the State of Nevada from either directly or indirectly using these funds to oppose the Project. Likewise, Congress cannot expect Nevada to support the project in exchange for the equity payment.

Recognizing that the process for determining the size of the equity payment is arbitrary, one possible approach is to request that the existing fund balance in the Nuclear Waste Fund be set aside for Nevada. The fund would remain in place (continuing to help offset the debt), but the interest would be made available to Nevada. The Yucca Mountain Project would continue to be funded by the Department of Energy and new income generated by the Nuclear Waste Fund. The funding could be made available to the truly affected local governments in Nevada, but the amount each receives would be based on two factors:

1. The primary factor that should be used to determine funding distribution is the level of impact to the local community from the repository. The distribution formula should be determined through a negotiated process. Esmeralda County believes that transportation impacts should, without question, be the most heavily weighted variable in establishing a funding formula. The current formula used to distribute oversight funding should not be used for determining equity payments. Assuming that no waste is transported through urban areas of Nevada, rural Nevada local governments should be the sole beneficiaries of these funds. It is anticipated that urban areas of the State, to the extent that they are impacted, will receive only favorable impacts. These include thousands of high-paying jobs, procurement opportunities, and increased tax revenues.
2. Local economic need. Each year the State of Nevada conducts a census and compiles an array of demographic information statewide. The State Demographer Office and grant funding agencies use this information to develop economic profiles for communities, counties and regions. A fairly accurate prediction can be made as to what a given community's economy may look like ten years in the future by comparing these trends. The DOE could use this to assess the economic status and economic need of counties in Nevada.

In addition to the straight equity payment, Esmeralda County also requests funding for specific programs and needs. The Esmeralda County Citizens Advisory Council held public meetings to obtain input. Examples of suggestions made include the following:

Esmeralda County Economic Development and Empowerment Programs

Improvements to the County's infrastructure, including communications, water, roads, and energy distribution.

Funding to construct new public schools with enhanced science education programs.

A Technology Training Center constructed in Esmeralda County with a focus on maximizing local employment opportunities.

An all-hazards training complex constructed in Esmeralda County for local responders from around the State and Country.

A local medical facility constructed in Esmeralda County.

Funding for affected counties to conduct transportation, environmental, and geologic study programs.

Transfer of certain public lands to Esmeralda County, including those previously identified around the communities of Silver Peak and Goldfield.

Change the Payment in Lieu of Taxes from population-based to public land-based (base payment on the percentage of publicly owned land in the County)

Funding for research and develop the County's renewable energy resources (wind, solar and geothermal).

Establish Yucca Mountain support facilities at off-site locations, including Esmeralda County.

Mandate that DOE procure a certain number of goods and services from Esmeralda County vendors

A north-south rail-south rail-line between the cities of Reno and Las Vegas with a branch line to Esmeralda County, if rail is the chosen mode.

Part IV.

Guidelines for the Development of a Comprehensive Transportation Plan

In order for Esmeralda County and the DOE to fully understand the scope and degree of impacts that Yucca Mountain will have on the County, a comprehensive transportation plan must be developed. The transportation planning effort will be built around a determination of the route and modes of transport. Esmeralda County favors a corridor through the Nellis Range Complex. For public health and safety reasons, Esmeralda County supports rail transport. With the right planning, the rail option could also potentially mitigate the fundamental inequity of shipping the waste through rural counties in Nevada by providing economic opportunity.

The section provides an overview of the County's current emergency response capacity, describes each of the transportation scenarios as they relate to Esmeralda County and makes initial recommendations as to how the DOE can develop a comprehensive transportation plan that addresses socioeconomic, public health and safety, environmental and equity issues.

Esmeralda County's emergency responders are all volunteers. They are not equipped, trained or willing to take on the additional responsibility of responding to high-level waste emergencies. This would require equipment the County can't afford, training the volunteers don't have and a responsibility the local emergency planning committee is not comfortable with. In order to meet the radioactive waste burden, Esmeralda County would require the DOE to fund trained full-time high-level waste response specialists, improved countywide communications, adequate radioactive incident response equipment, a local medical facility to treat victims, and a local emergency responder training center.

The following table summarizes Esmeralda County's current emergency response capacity:

A Profile of Esmeralda County's Emergency Response Capacity
<p data-bbox="266 913 630 945">Emergency Medical Service*</p> <p data-bbox="266 961 1393 1150">Each of Esmeralda County's three districts has a volunteer ambulance service. There are thirty trained emergency medical service (EMS) personnel in the county, with the majority trained to the Awareness level. Each service has one primary and one backup ambulance. Because all but two of the ambulances are more than twenty years old, at least one is usually out of service.</p> <p data-bbox="266 1213 490 1245">Fire Department*</p> <p data-bbox="266 1262 1393 1451">Esmeralda County has three volunteer fire departments, serving three districts. There are 9 fire trucks in Esmeralda County. The majority of the firefighters in Esmeralda County are trained at the Operations and Basic Technicians levels. However, the Fish Lake Valley district suffered a recent turnover in personnel and can no longer respond at an Operations level.</p> <p data-bbox="266 1514 1414 1755">*It should be noted that approximately one-half of the volunteer emergency response personnel in Esmeralda County serve as volunteers <u>for both</u> the EMS and Fire Department. When a fire or hazardous material incident occurs, many of the volunteer EMS personnel are called to respond, forcing minimal staffing for the ambulance service. Similarly, a serious traffic accident or multiple accidents could draw volunteers from the Fire Department..</p>

A Profile of Esmeralda County's Emergency Response Capacity (continued)

Sheriff's Department

The Esmeralda County Sheriff's Department is headquartered in Goldfield, the County Seat and the corridor community through which high-level radioactive waste is destined to travel. The Sheriff's Department has a total of 16 employees: The Sheriff, the Undersheriff, six resident deputies, four reserve deputies, four jailers, and four dispatchers. A small percentage of the Department is Awareness level trained. The Sheriff's Department plays a crucial role in coordinating and responding to emergencies.

Emergency Management Coordinator

Esmeralda County employs a full-time Emergency Management Coordinator. In addition to coordinating emergency incident response efforts, the coordinator arranges training for volunteers and purchases equipment and resources for each of the County's response agencies. The Emergency Management Coordinator is trained to the awareness level but is not presently qualified to train emergency responders. Therefore, training must be conducted with the help of the State of Nevada and federal agencies. The County lacks the necessary facilities to host comprehensive training exercises, so the majority of training requires travel, both in and out of state. None of the County emergency responders are presently trained in radiological response.

Emergency Operations Center (EOC)

The EOC was constructed to centralize emergency communications within the County, house emergency response equipment and provide an office for the emergency management coordinator. The facility is too small to serve as a training facility for emergency responders. Esmeralda County does not presently have an emergency response training facility.

According to the Department of Energy's Draft Environmental Impact Statement, the high-level waste transportation system in Nevada will be based on one of three modal scenarios:

1. Mostly rail using one of five rail corridors with a branch line to Yucca Mountain
2. A combination of rail and heavy-haul truck using one of five potential rail corridors and one of three potential intermodal stations
3. Mostly highway by legal-weight truck

1. The Rail Scenario

Of the five potential rail corridors, two would require the conveyance of high-level waste through Esmeralda County (see Appendix – Figure 1). The Carlin corridor would carry waste from the northeastern part of Nevada south through Esmeralda County to the Nevada Test Site. The Caliente corridor would convey the waste west from the eastern border of Nevada, around the northern edge of the Test Site and south through Esmeralda County back into the Test Site near Yucca Mountain. The DOE has also presented two options for conveying waste by rail once it enters Esmeralda County. In the first scenario, the rail corridor would be partly constructed on the Nellis Air Force Range, just east of the Esmeralda County line. This corridor would bring the high-level waste within ten miles of Goldfield. In the second scenario, the corridor would be constructed near the original north-south rail right-of-way on the eastern edge of the County. This corridor comes within five miles of the Goldfield city limits.

Esmeralda County's preferred option for the transportation of high-level waste to Yucca Mountain is a variation of the Chalk Mountain-Caliente rail corridor. A Chalk Mountain-Caliente corridor would convey all rail shipments of waste into Nevada from the east through Lincoln County and across the Nellis Range Complex to Yucca Mountain. Because Lincoln County would host the corridor for all of the high-level waste shipments through Nevada, transportation impacts to Esmeralda County would be virtually eliminated.

High-level waste shipped by rail would be more secure than if it were transported by highway. The rail casks holding the waste could weigh up to 125 tons, as opposed to

approximately 25 tons for legal weight highway shipments, making the rails casks more difficult to handle and move. A rail line is also less accessible than a highway. Many county residents feel that rail is the safest form of transport, would have the least impact on the County's resources and may even benefit the local economy. The construction of a system through or near the County could provide employment opportunities for local residents. Depending upon the route selected, a branch line to Goldfield could provide tourists with easier access to the community. This would generate revenue from tourism and build recognition of Goldfield's wealth of historic assets.

As noted earlier, Esmeralda County is home to a wide range of minerals. Because it is not presently economically feasible to ship these minerals by truck, the County's vast mineral resources have not been exploited. However, if a rail line were constructed in the County, exploitation of these minerals could become feasible. If rail were the chosen option, Esmeralda County would request that the Department work with the County in developing a strategy for constructing a branch line to exploit the County's mineral resources.

A proposed rail line through or near Esmeralda County could also have negative impacts. In the extremely unlikely event of a breach of a transportation cask, a train accident within five miles of Goldfield could have serious consequences. An incident would cause long-term stigma impacts and could result in adverse health consequences and contamination of the County's water supply and environment. Since at the present time local emergency responders are only equipped and trained to evacuate the area and isolate the incident, the County would need to hire full-time response specialists to handle rescues. Heavy equipment may also be necessary to remove debris and rescue victims.

Summary

- The Chalk Mountain-Caliente corridor would have the least impact on Esmeralda County
- Rail is the safest and most economically viable option
- If the Department of Energy intends to develop a rail corridor through Esmeralda County, significant long-range planning needs to be conducted in cooperation with Esmeralda County for the purpose of minimizing adverse impacts and maximizing positive economic opportunities associated with the addition of a rail infrastructure, which could be a significant economic asset.

Guidelines for Mitigating Railway Shipments through Esmeralda County

- Construction of a rail line crossing the Nellis Range Complex or, as a less preferred alternate, construction of a north-south rail line between Reno and Las Vegas, with a branch line to Esmeralda County. At the very least, the County should be involved in the process of selecting a rail route and possible rail spurs to areas of the County that are known to have significant quantities of industrial grade minerals.
- Esmeralda County and the DOE must be fully prepared to ensure the safety of local residents in the event of a derailment.
- Esmeralda County should be empowered to assist in the development of comprehensive transportation plans concerning such issues as inspection plans, security measures, construction or changes to roadways, electric lines, water lines, telephone lines and any other modifications to infrastructure resulting from rail transportation planning.
- A long-term flexible funding agreement to provide local emergency responders with all resources and guidance necessary to deal with any incident. The funding should be made available annually for all hazards-response training, safety equipment, emergency vehicles, communications upgrades, technical and program planning, and the hiring of a team of full-time response specialists.
- Assurances by DOE that throughout the life of the action, if an incident occurs, no matter what the local response capability may be, the DOE will provide expert assistance immediately to manage all aspects of the incident.
- The rail line should be built and operated using the highest safety standards in the industry.

**Guidelines for Mitigating Railway Shipments through Esmeralda County
(continued)**

- Monitoring wells alongside and down-gradient from the right-of-way
- A state of the art lab and trained experts stationed in Esmeralda County to analyze environmental samples.
- A commitment to fund all inspections, repairs and improvements to corridor community water and sewer systems throughout the life of the action.
- Ensure that all land-use policies, programs and activities are coordinated with Esmeralda County policies, programs and activities.
- The ability and resources necessary to utilize DOE's tracking system.
- A monitoring station and security checkpoint should be located in Esmeralda County.
- Heavy equipment located in the vicinity to move debris and rescue victims.
- Train and hire rail construction workers and inspectors locally.
- Funding for a full-time BLM staff person to assist with all federal land issues and conveyances.

2. The Heavy-Haul Scenario

The heavy-haul scenario is considered by many the least practical and most dangerous of all the modes proposed by the Department of Energy. Typically, a heavy-haul carrier is about 200-feet long, can weigh up to 125 tons, runs on sixteen or more axles and requires engines in both the front and rear to aid in maneuverability. If the DOE chooses heavy-haul as the mode of transport, the vehicles would be traveling predominantly on two-lane Nevada highways through rural communities, which presently have limited emergency response capacity.

The logistics involved with coordinating and implementing a heavy-haul transportation campaign over Nevada's highways are complex. Currently, heavy-haul shippers may only apply for a single-use permit to transport through the State of Nevada. NDOT has not given any indication that it would loosen this requirement for high-level waste shipments. Thus, unless federal legislation is passed to circumvent the permitting process, this is not considered a viable option. The heavy-haul transport scenarios require several shipments per day to be transported through Nevada to Yucca Mountain for a period of up to thirty years.

There are also significant issues concerning the routes proposed to convey heavy-haul transporters through Nevada. This report will focus on those issues specifically pertaining to Esmeralda County. Approximately 63 miles of a two-lane section of US 95 runs north and south along the eastern portion of Esmeralda County (Appendix – Figure 2). Of particular concern is the two-mile segment of this corridor that bisects downtown Goldfield.

The fact that Goldfield would become a corridor for highway shipments of hazardous waste is nothing new. Approximately 2,400 vehicles travel through the community every day. Between 17% and 18% of these are commercial trucks. An untold percentage of these trucks carry some form of hazardous material. The Goldfield emergency response volunteers don't have the benefit of vast resources to properly train personnel, or purchase response vehicles, emergency apparatus and communications equipment. Yet, through an unwavering commitment to the community, they have managed to perform well with limited resources. High-level waste shipped through the County would create an

additional burden for the responders that they are not equipped, trained or willing to take on.

The stretch of US 95 through Esmeralda County is all two-lane road. The idea that it would be used to convey heavy-haul carriers is disquieting to many county residents. They have raised a number of questions such as how would traffic be diverted around the carriers safely, will the DOE construct safe havens, how will security be handled and inspections ensured? There is also the concern that the slow moving heavy-haul carriers may not directly create accidents, but their presence may lead to them as impatient drivers attempt to zip around the carriers into oncoming lanes or travel at greater speeds for the remainder of their trips to make up for lost time.

US95 takes a 90-degree turn at the south end of Goldfield. This aptly named "critical curve" would act as an impassable barrier for any heavy-haul truck. If the DOE does decide to go with heavy-haul, a bypass route would have to be constructed to circumvent the curve. There is widespread local concern that the bypass could also divert recreational traffic away from the business district in Goldfield and would significantly impact local revenues generated through retail. If a bypass route is chosen, the DOE will need to come up with a way in which local businesses can be compensated for revenue losses.

Another concern is that the weight of the heavy-haul units would lead to premature wear and tear on the roads and, more importantly, could potentially damage the historic buildings located, in some cases, within four feet of the highway. Costs to maintain the highway can be estimated, but the historic buildings in the community are priceless; and like many of the other socioeconomic impacts, there is no way to accurately quantify their value should they be damaged. The Department of Energy should take this into account when considering the pluses and minuses of a heavy-haul campaign.

Perhaps one of the most significant risks to public health is the fact US 95 follows the public water and sewer lines for 12 miles through and beyond Goldfield. There are also two community wells in close proximity to the highway. The Department of Energy will need to address how the transportation system may affect drinking water in its comprehensive route analysis for Esmeralda County.

Summary

- The heavy-haul transport option is unprecedented, costly and logistically difficult.
- A long-term heavy-haul transportation campaign has never been conducted before, therefore DOE has no past experience to predict the level of impact the campaign may have on corridor communities
- DOE needs to plan well in advance if it intends to develop such a system and should focus on not only mitigating health and safety issues, but also economic impacts, specifically from bypass routing

Guidelines for Mitigating Heavy-Haul Shipments through Esmeralda County

- Esmeralda County should be empowered to assist in the development of comprehensive transportation plans concerning such issues as inspection plans, security measures, construction or changes to roadways, electric lines, water lines, telephone lines and any other modifications to infrastructure resulting from heavy-haul transportation planning.
- Ensure that all land-use policies, programs and activities are coordinated with Esmeralda County policies, programs and activities.
- The County Sheriff and Fire Departments should be given notice 24-hours prior to each shipment
- The full-term schedule for heavy-haul shipments will be made available to the corridor communities in the earliest stages of planning. The schedule will include the sites of origin and classifications of waste
- Turnouts constructed along the corridor highways every few miles.
- All high-speed two-lane routes between corridor communities must be widened to four-lanes.
- A long-term flexible funding agreement to provide local emergency responders with all resources and guidance necessary to deal with any incident. The funding should be made available annually for all hazards-response training, safety equipment, emergency vehicles, communications upgrades, technical and program planning, and the hiring of a team of full-time response specialists.
- The ability and resources necessary to utilize DOE's tracking system..

**Guidelines for Mitigating Heavy-Haul Shipments through Esmeralda County
(continued)**

- Assurances by DOE that throughout the life of the action, if an incident occurs, no matter what the local response capability may be, the DOE will provide expert assistance immediately to direct rescue efforts.
- Monitoring wells alongside the highway near the water and sewer lines
- A state of the art lab and trained experts stationed in Esmeralda County to analyze environmental samples.
- A commitment to fund all inspections, repairs and improvements to corridor community water and sewer systems throughout the life of the action.
- Funding for a downtown revitalization program to pay for sidewalk improvements, trees, benches, lampposts as well as a marketing strategy to bring both businesses and tourists to the business sector. DOE should also make interest free long-term loans available to all business owners in Goldfield.
- Annual funding to help preserve historic buildings in the community.

3. The Legal Weight Scenario

Comprehensive planning, or the consequences from the lack of it, is a recurring theme throughout this strategy. The legal weight transport system is no exception.

Although the carriers would be smaller than in the heavy haul scenario, a greater number of shipments would be required over the same infrastructure for the same length of time. The larger quantity of shipments increases the chances for accidents and creates greater security risks. As in the heavy haul scenario, a bypass may need to be constructed around Goldfield, which could hurt the economy of the community.

The Department must follow specific guidance from the DOT on how to determine routing for legal weight transportation of highway route controlled quantities of radioactive material. There is only one route in the State that meets these criteria. The DOE is analyzing only this route as the potential corridor for legal weight shipments. But it is an option that will never be implemented because it would require that shipments travel through the Las Vegas Valley.

The DOT "preferred" route for shipping radioactive waste in Nevada would require that waste be transported into the state from either Utah or California via Interstate Highway 15. Carriers would be required to circumvent the city of Las Vegas via the planned Las Vegas Beltway. From the Las Vegas Beltway, the material would be conveyed north along US 95 to the Test Site,

If the I-15 option were chosen, Clark County would benefit from a comprehensive analysis prepared by the Department of Energy specifically tailored to the capabilities and limitations of the transportation system in Southern Nevada. Additionally, Clark County has the most highly trained and best-equipped response personnel in the State and the "preferred" routes are well maintained, a minimum of four-lanes wide, and are easily accessible.

Based upon past experience, it is anticipated that Clark County's campaign to reroute shipments through the rural areas of the state would begin immediately after the DOE announces its intention to ship by legal weight truck. Those designated by Clark County to use political means to influence the outcome of this highly technical and far-reaching

decision should understand that their actions may contribute to long-term or permanent consequences for thousands of people living in rural Nevada along the selected corridor.

Inevitably, routes through rural Nevada will be selected just as they were for shipments of low-level waste to the Nevada Test Site.

Based upon precedent, community residents most impacted by the re-routing away from urban areas will have no opportunity for feedback. The DOE should immediately begin a careful and detailed analysis on routing high-level waste shipments through rural Nevada.

Based on how low-level waste is shipped through the State, the majority of high-level waste shipments will be conveyed over the 63 miles of the two-lane segment of US 95 that runs through Esmeralda County (Appendix – Figure 3).

Due to the hazardous nature of the radioactive material and the fact that security convoys will most likely escort the shipments, the two-lane highway will need to be expanded to four lanes. Because the expansion won't be possible in Goldfield, a four-lane bypass would need to be constructed around the community, which as discussed earlier, will have economic repercussions.

A virtually unplanned, unprecedented 30-year effort to move high-level waste on legal weight truck over the Nevada highway system cannot be compared to anything the County has taken on before. The County hopes that DOE commits to begin analyzing this route and public safety mitigation immediately, but there is currently no way to tell when this will occur.

As addressed in the heavy-haul scenario, the highway corridor through Goldfield follows local public water and sewer lines. The water and sewer lines were not constructed to protect the system from radioactive emissions. There are also two community wells in close proximity to the highway. The Department of Energy will need to address how the transportation system may affect drinking water in its comprehensive route analysis for Esmeralda County.

Summary

- Though the Southern Nevada option is the only route currently being analyzed, it is anticipated that all high-level waste shipments will be routed through rural Nevada.
- Because for political reasons this decision will likely be made at the last minute, DOE should stay ahead of the curve and begin looking at alternate routes.
- A mitigation package should address emergency management issues as well as economic impacts from bypass routing.

Guidelines for Mitigating Legal Weight Shipments through Esmeralda County

- All high-speed two-lane routes between corridor communities must be widened to four-lanes.
- The full-term schedule for legal weight shipments to be made available to the corridor communities in the earliest stages of planning. The County Sheriff's Department should be given notice 24-hours prior to each shipment
- A long-term flexible funding agreement to provide local emergency responders with all resources and guidance necessary to deal with any incident. The funding should be made available annually for all hazards-response training, safety equipment, emergency vehicles, communications upgrades, technical and program planning, and the hiring of a team of full-time response specialists.
- Esmeralda County should be empowered to assist in the development of comprehensive transportation plans concerning such issues as inspection plans, security measures, construction or changes to roadways, electric lines, water lines, telephone lines and any other modifications to infrastructure resulting from legal weight transportation planning.
- Ensure that all land-use policies, programs and activities are coordinated with Esmeralda County policies, programs and activities
- Assurances by DOE that throughout the life of the action, if an incident occurs, no matter what the local response capability may be, the DOE will provide expert assistance immediately to direct rescue efforts
- Monitoring wells alongside the highway near the water and sewer lines

**Guidelines for Mitigating Legal Weight Shipments through Esmeralda County
(continued)**

- A state of the art lab and trained experts stationed in Esmeralda County to analyze environmental samples
- A commitment to fund all inspections, repairs and improvements to corridor community water and sewer systems throughout the life of the action
- The ability and resources necessary to utilize DOE's tracking system..
- Construction of an all-hazards training and live exercise facility in Esmeralda County

V.

Conclusion

Based upon the most probable scenarios for Yucca Mountain, as depicted in this plan, Esmeralda County will be highly impacted by Yucca Mountain. The transportation campaign will create impacts to the health and safety of county residents as well as environmental, economic and social impacts to the County.

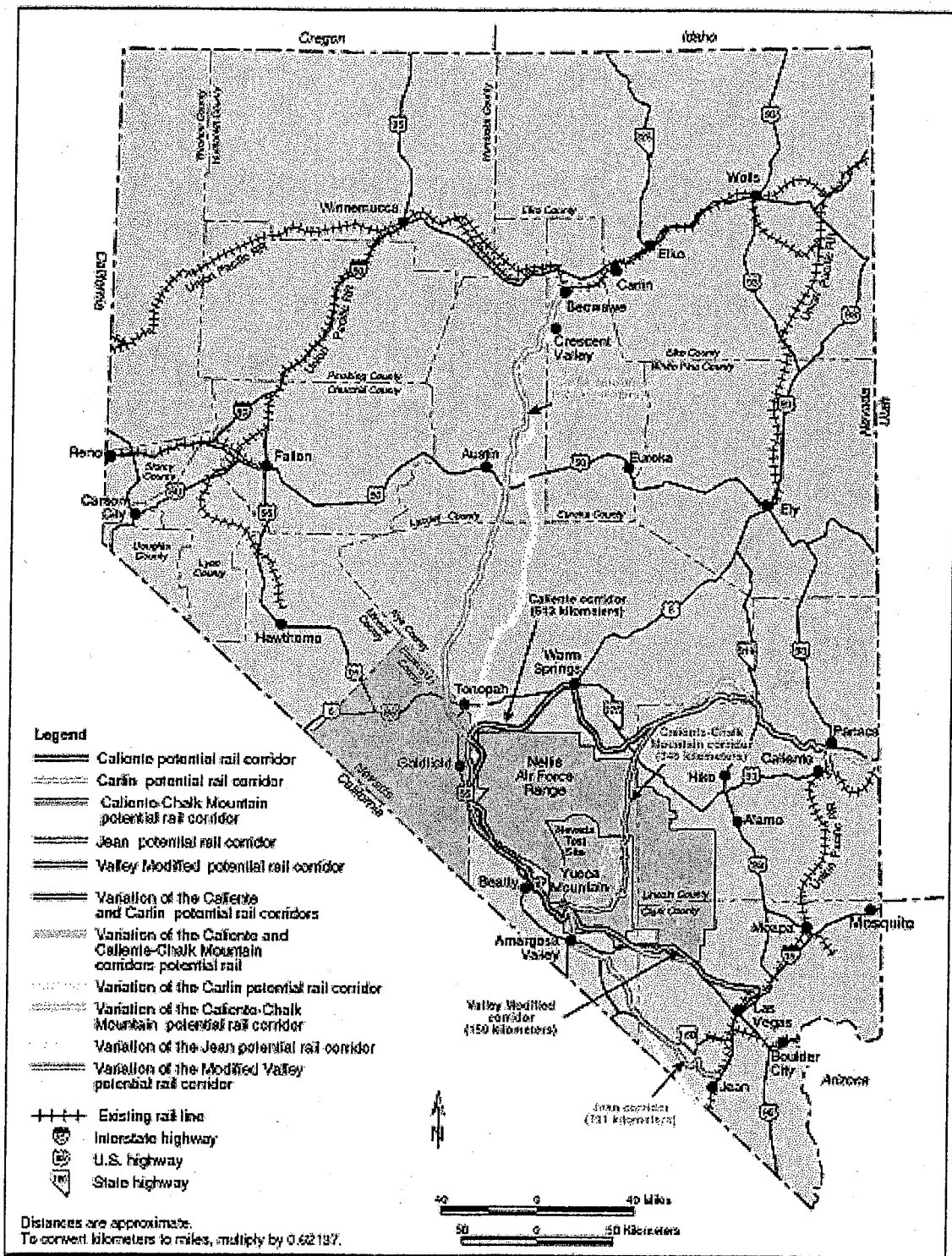
Esmeralda County's preferred system of transport is any option that would bring the waste through the Nellis Range Complex. As noted earlier, this would have the least impact on the fewest Nevadans. If a route across the Range Complex were not used, Esmeralda County would favor rail as the mode of transport. This option would take much of the burden off of the County's limited emergency response resources and, if well planned and designed equitably, could lead to some long-term economic benefits for Central Nevada communities.

DOE must begin the mitigation process by developing a transportation plan to address routing, mode, security, inspections, communications, and emergency planning issues identified in this strategy. The next step will be for the DOE and the affected Counties to look at the scope of socioeconomic impacts from Yucca Mountain, an effort that has not been conducted before. DOE should not make an attempt to identify and quantify each impact's weight on a community. In Esmeralda County's opinion, socioeconomic impacts can only be resolved through a negotiated process.

Finally, DOE needs to recognize that it would be fundamentally unfair to ask Nevada's affected communities to take on the burden of this repository without equitable compensation. The responsibility the federal government will require of Nevada is beyond anything that DOE has required of any state in the past. DOE needs to provide the State of Nevada and the appropriate affected counties with an equity settlement that reflects the enormity of a Project that will affect many generations.

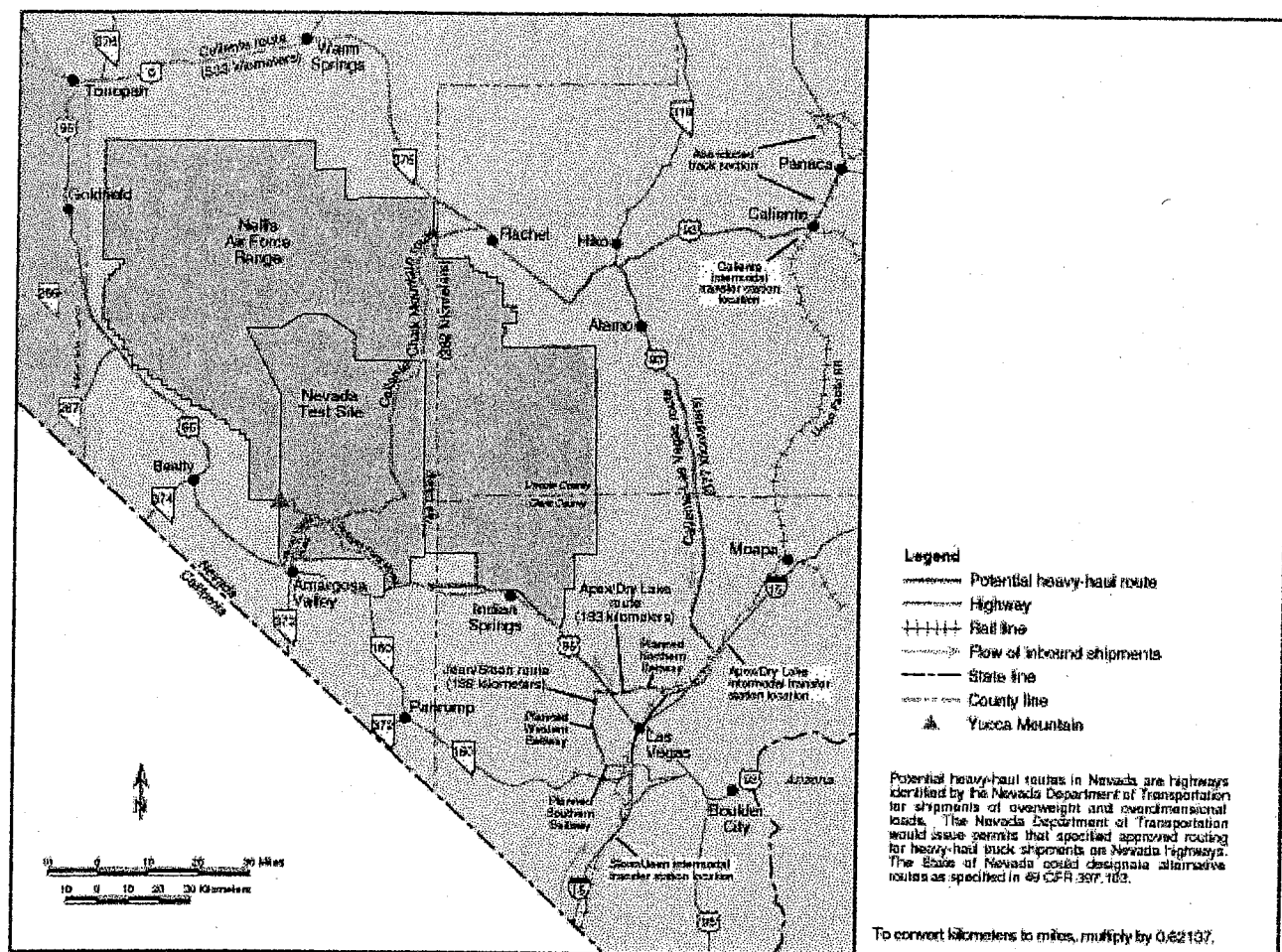
VI.
Appendix

FIGURE 1



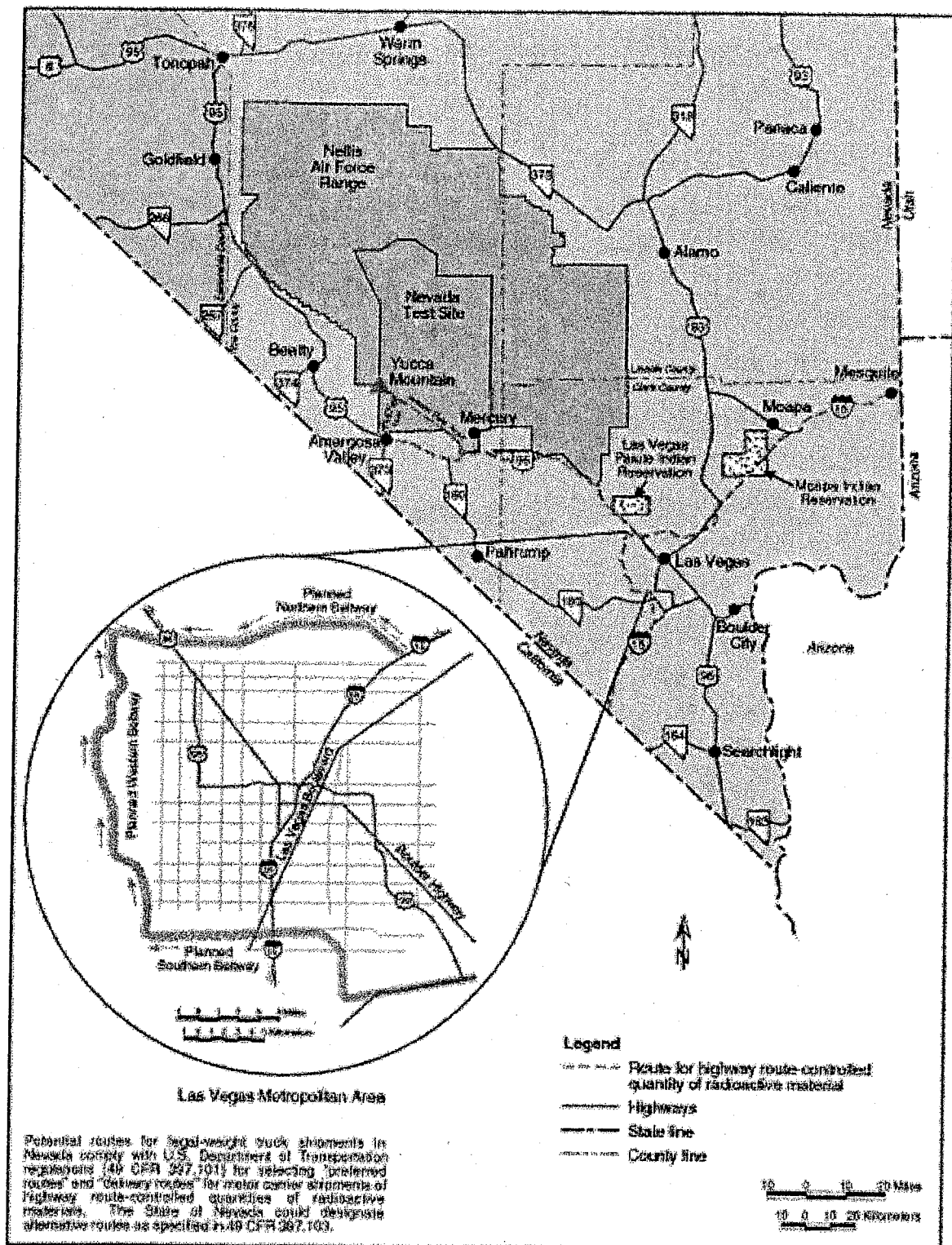
Map Depicting Potential Rail Corridors for Shipments to Yucca Mountain
- DOE 1999, Yucca Mountain DEIS

FIGURE 2



Map Depicting Potential Heavy-Haul Corridor for Shipments to Yucca Mountain
 - DOE 1999, Yucca Mountain DEIS

FIGURE 3



Map Depicting Potential Legal Weight Highway Corridor for Shipments to Yucca Mountain
 - DOE 1999, Yucca Mountain DEIS

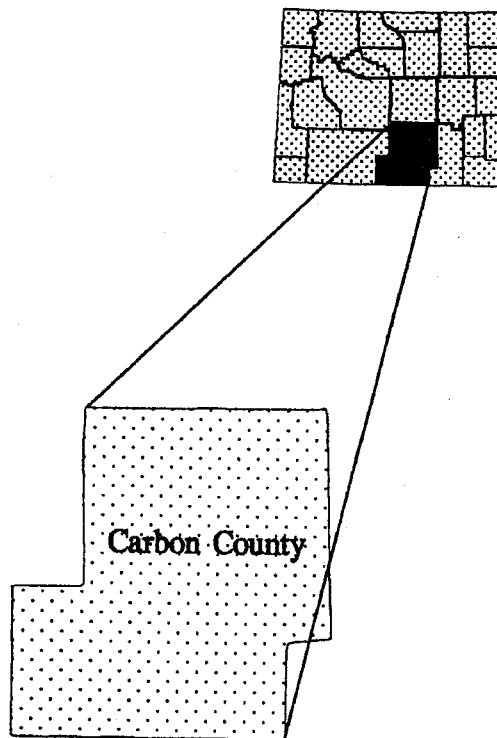
VII.

Sources

1. Esmeralda County Board of County Commissioners. (1999, July). Esmeralda County Comments on the Draft Yucca Mountain Environmental Impact Statement for a Geologic Repository for the Disposal of High-Level Waste at Yucca Mountain, Nye County, Nevada.
2. Esmeralda County and Robison/Seidler (2001, May). Esmeralda County Comprehensive Economic Development Strategy.
3. Intertech Services Corporation. (1993, August). Characterization of Potential Socioeconomic Impacts of the Yucca Mountain Repository Program in Esmeralda County. Submitted to the Esmeralda County Repository Oversight Program.
4. Management Strategies and Research, Inc. (1992, September). Emergency Response Capacity to High-Level Nuclear Waste and Hazardous Materials Transportation Incidents in Esmeralda County. Submitted to the Esmeralda County Repository Oversight Program.
5. Robison/Seidler. (1998, November). A Plan for Managing Routine and Emergency Transportation Events Involving Spent Nuclear Fuel and High-Level Radioactive Waste (Second Draft). Submitted to the Affected Units of Local Government.
6. Robison/Seidler. (1998, July). Esmeralda County Low-level Waste Impact Mitigation Plan. Submitted to the Esmeralda County Board of County Commissioners.
7. US Department of Energy (DOE), Office of Civilian Radioactive Waste Management. (1999, July). Draft Yucca Mountain Environmental Impact Statement for a Geologic Repository for the Disposal of High-Level Waste at Yucca Mountain, Nye County, Nevada.

State of Wyoming WIPP Transportation Emergency Exercise

WIPPTREX 95-1 Briefing Package



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